



# Report on Revenue Sharing in the Regulated Solid Waste Industry



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# 1. Executive Summary

RCW 81.77.185 allows solid waste collection companies (“haulers”) to keep up to 30 percent of the proceeds from the sale of recyclables to expand recycling programs, if the local government certifies that the program is consistent with the local solid waste management plan. This law also directs the UTC to report to the Legislature on the effectiveness of revenue sharing as an incentive to increase recycling, and the effect of revenue sharing on customers’ rates.

**Revenue Sharing Programs.** Since 2002, 10 companies in three counties (King, Pierce, and Snohomish) have participated in revenue sharing. Overall, companies retained approximately \$3.3 million from the sale of recyclable materials that previously would have been returned to customers. Counties are pleased with the results of the recycling programs and believe those programs have resulted in increased recycling. We found increases for some King County haulers, but our data also indicate that per-customer recycling volumes may have decreased for others. In Snohomish County, shifting to single stream recycling and collecting additional materials appear to have increased recycling volumes. Although Pierce County had just started single stream recycling, the programs exceeded all projections of increased recycling tonnage, average pounds recycled per household, and low contamination rates.

**Cost to customers.** We calculate increased costs to customers from these programs ranging from \$.35 to \$2.68 per customer per month due to increased collection costs from new equipment and expenses (up to \$2.19 per month) and reduced commodity credit (from \$.35 to \$.83 per month). However, customers also derive benefits from these recycling programs, including convenience from single stream collection and collecting additional materials.

**How companies spent the retained revenue.** Companies spent all of the retained revenue for recycling-related purposes, such as new containers, collection equipment and educational materials. Much of the retained revenue was spent on activities or items that will increase the company’s equity or profit in future years.

**Effectiveness of revenue sharing as a tool to increase recycling.** We cannot draw meaningful conclusions about whether revenue sharing was effective in increasing recycling, in large part because there are too many uncontrolled variables.

## 2. Summary of Recycling Programs

Before 2002, regulated solid waste collection companies returned 100 percent of recyclable commodity sale proceeds to their customers. (For background on state regulation of solid waste, see Appendix A.) The legislature changed this by enacting chapter 299, Laws of 2002 (SHB 2308). Section 6 of this bill, codified as RCW 81.77.185 (see Appendix B), allowed haulers to keep up to 30 percent of the proceeds from the sale of recyclables to expand recycling programs, if the local government certified that the program is consistent with the local solid waste management plan.

Since 2002, 10 companies serving 289,455 households in three counties (King, Pierce, and Snohomish), participated in revenue sharing. The following companies and counties participated in revenue sharing recycling programs:

### King County

- Waste Management of Sno-King
- Waste Management of Seattle
- Waste Management of Rainier
- Nick Raffo, and RST
- Eastside Disposal (Rabanco)
- Kent-Meridian Disposal Company (Rabanco)

### Pierce County

- Harold LeMay Enterprises, Inc.
- Murrey's Disposal
- American Disposal Company

### Snohomish County

- Waste Management of Northwest
- Lynnwood Disposal (Rabanco)

King and Snohomish counties recommended allowing haulers to retain the full 30 percent of revenues, while Pierce County recommended allowing companies to retain *up to* 30 percent of revenues. The UTC allowed companies to keep revenues as recommended by the counties.

New programs and policies initiated under revenue sharing include:

- Single stream recycling in King, Pierce, and Snohomish counties.
- Organic food and yard waste recycling programs in King County.
- Collecting additional materials, such as plastics, in all counties.
- Excluding glass from curbside recycling in Pierce County.
- Equipment upgrades (new trucks, computers, recycling carts, etc.).

**Single-stream recycling programs implemented in King, Pierce, and Snohomish counties.** Single stream recycling (also known as “commingled recycling”) means collecting all recyclable materials, mixed together, in a single cart instead of requiring

the customer to sort materials into separate bins or carts by material type (such as newspaper, cardboard, plastic, and glass.) In single stream recycling, both the collection and processing systems are designed to handle commingled materials.

**Materials added and excluded.** The new recycling programs collected several additional types of recyclable products, including polycoated beverage containers, polycoated freezer boxes, plastic bottles and food tubs (excluding polystyrene), and ferrous and nonferrous metals.

In King and Snohomish counties, haulers continue to collect glass in their curbside recycling programs. However, Pierce County banned glass from curbside recycling collection. Residents can take glass to 30 collection drop-off sites in the county. King County banned yardwaste and electronic waste.

**Organic recycling of food and yardwaste in King County.** King County's 2001 Comprehensive Solid Waste Management Plan identified pilot programs as a step to expand food waste collection and achieve its goal to promote environmentally sound management of organic materials. King County Ordinance 10.18.010 sets minimum residential recycling collection service levels for the unincorporated service areas that prohibit combining yardwaste with garbage. King County Ordinance 10.18.020 requires regulated solid waste companies to file appropriate rates with the UTC if an organic program is implemented. Two regulated companies, Waste Management of Sno-King and Eastside Disposal, implemented organic waste programs in King County.

**Waste Management of Sno-King's pilot organic collection program.** Waste Management of Sno-King's revenue sharing plan with King County included an organics pilot program that combined food and yardwaste. This pilot program was discontinued in August, 2005. The goal of the pilot program was to divert organic waste (compostable yardwaste, food waste, and food-soiled paper) from landfills to the Cedar Grove Composting facility. Waste Management and King County selected a gated community with 540 customers to test the organic waste pilot program. The pilot program was set up as mandatory pay, with voluntary participation, similar to regular curbside recycling. The company collected the following food waste in the yardwaste containers:

- Fruits and vegetable scraps
- Meat and fish scraps and bones
- Solid food leftovers
- Coffee grounds, filters and tea bags
- Used paper towels and napkins
- Food-soiled cardboard (without plastic or aluminum coatings)
- Pizza boxes and paper take-out containers.

Customers who already subscribed to 96-gallon or 64-gallon yardwaste service prior to the pilot program continued to pay the applicable tariff rates throughout the pilot program. Customers who did not subscribe to yardwaste service received a free 35-gallon cart for yardwaste and organics service. King County paid Waste Management \$5.20 per 35-gallon cart from September 6, 2004, to June 30, 2005, for all customers who did not previously subscribe to yardwaste service, including 31 customers who refused the container and refused to participate in the pilot program. King County committed to survey all customers before the pilot program started and again at the end. The county surveyed customers at the beginning of the pilot program, but decided not to do the follow-up survey after it discontinued the pilot program. However, the county did a follow-up telephone survey of a sub-group of the customers who requested a year's supply of compostable bin liner bags, for the purpose of obtaining information about the use and performance of the bin liner bags.

Waste Management had planned on conducting two "waste characterization sorts" (one at the beginning and one at the end) to determine if customers changed their behavior by reducing the levels of organic waste collected from garbage cans for disposal at the landfill. However, the follow-up sort was not completed because the county elected to discontinue the pilot program.

Even though some customers received free 35-gallon container service, participation in the organic waste pilot was low. King County and the company determined that continuing the program would be cost prohibitive. The county believed that increased costs would be too high for households that did not subscribe to yardwaste service. According to King County's response to the UTC survey: "Many cities that have expanded basic residential service to include embedded (mandatory pay, voluntary participation) organic collection also subsidize the cost to residents through cross-subsidization with the commercial sector or higher charges for extra residential garbage cans." The county did not choose to pursue either of these options with the UTC.

**Eastside Disposal's organic collection program.** Eastside Disposal implemented an organics program in late 2004. This program allows customers to combine the following food waste with yardwaste for composting: fruits and vegetable scraps, meat and fish scraps and bones, solid food leftovers, egg shells, coffee grounds, filters and tea bags, used paper towels and napkins, paper grocery bags containing food scraps, and food-soiled cardboard, pizza boxes and paper take-out containers. The program is available at no extra cost to any customer who subscribes to yard-waste service. The company currently serves 16,998 yardwaste customers. However, the company does not track how many customers combine food waste with yardwaste, so has no data on program results or effectiveness.

**Removing glass from curbside pick-up in Pierce County.** Pierce County announced in 2005 that glass is no longer accepted in the curbside recycling program. Instead, residents are asked to take their glass to designated recycling collection drop-off sites throughout Pierce County. There are 30 collection sites and more may be added. The county cited four reasons for its decision to ban glass from its recycling by ordinance:

- **Contamination:** Glass can break if collected in the recycling cart. Glass shards mix with paper and other recyclables, which can damage processing equipment, lower the value of the recycled paper, increase processing costs, and pose a danger to workers at the sorting stations.
- **Less glass usage:** Many beverages and other goods are sold in plastic bottles, not glass. Because residents have less glass to discard, they were setting out their glass only once every four to six weeks.
- **Low demand:** In recent years, recycling haulers have had difficulty selling recycled glass. Sometimes haulers have to pay to have glass transported and crushed into sand. This lack of a consistent market is a problem throughout the United States, not just our region.
- **Cost:** Curbside glass collection would have added another \$1 to \$3 per household per month to the recycling collection program. Given the contamination, usage, and demand issues described above, the county decided curbside glass collection was not worth the added expense.

**Enhanced equipment used for data collection in Pierce County.** Harold LeMay Enterprises installed on-board computers in its trucks to track recycling data. These computers will keep more accurate records of households that have placed containers out on collection days; the total materials picked up on each route; and the number of tons collected on each route. The data from this technology will allow the company to focus educational efforts on residential areas with low recycling participation.

Pierce County is pleased with the cooperative efforts of the haulers and the UTC, which resulted in smooth implementation of the single stream collection program.

### 3. Costs To Customers

Recycling programs can affect costs to customers in three ways: the cost of collection, reduced recycling commodity credit (i.e. revenue sharing), and changing the value of collected material. We calculate increased costs to customers ranging from \$.35 to \$2.68 per customer per month due to increased collection costs (up to \$2.19 per month) and

reduced commodity credit (from \$.35 to \$.83 per month). Each of these is discussed below.

**Increased collection costs.** Some programs increased the costs that customers pay for their recycling collection. See Table 1 below. For example, Pierce County companies changed from a three-bin, separated materials collection system to a single cart, commingled (single stream) collection system. The change required companies to invest in new collection carts and new collection vehicles.

**Table 1**  
**Cost of Implementing Single Stream Recycling Collection in Pierce County**

<u>Company Name</u>	<u>Monthly Collection Costs</u>			<u>Increase</u>
	<u>Old</u>	<u>Single Stream</u>		
Harold LeMay Enterprises, Inc.	\$ 2.68	\$ 4.35		\$ 1.67
Murrey's Disposal	\$ 2.56	\$ 4.75		\$ 2.19
American Disposal Company	\$ 2.56	\$ 4.75		\$ 2.19

Waste Management and Rabanco companies also increased investment in new trucks and carts that will increase collection costs in the future. Some collection programs reduced operating costs by changing from weekly to bi-weekly collection service.

**Reduced commodity credit.** Prior to revenue sharing, the UTC's policy was that customers should receive 100 percent of the revenue that companies received from the sales of materials collected in recycling programs. Because customers spent the time and effort to separate the recyclable materials, they received the benefit of the proceeds of selling the materials. Revenue sharing changed that arrangement by allowing the company to retain up to 30 percent of the revenues collected for sale of recycled materials, so customers now receive only 70 percent of the revenue from the sale of recyclable materials. Overall, companies retained approximately \$3.3 million from the sale of recyclable materials that previously would have been returned to customers, about \$.35 to \$.83 per month (see Table 2, below). On the other hand, single stream recycling may reduce the time and effort required to separate recyclables from garbage, which benefits customers.

**Net value of recyclable materials.** The net value of collected materials could change but this will be difficult, if not impossible, to measure. Most recycling programs already collect high-value, high-volume materials. Mostly low-value materials (such as plastics) remain to be included in recycling programs. The average incremental cost of collection and processing may exceed the incremental net revenues from the sale or disposal of additional materials. Individual customers may lower their garbage



collection costs by diverting materials, such as food waste, from garbage to yardwaste composting, which may allow a customer to subscribe to a lower level of garbage service. However, this will provide a benefit only if customers are aware of the different levels of garbage service available to them and change service levels.

**Table 2 Revenue Retained from Revenue Sharing and the Effects on Customers**

Data from UTC survey of regulated companies in September/November 2005

Company	Revenue Sharing Percent	Date of Revenue Sharing	County	Estimate of total revenue retained from sale of Commodities	Total Residential Customers	Total Cost to Customers	Monthly Cost to Customers
Waste Management of Sno-King	30%	July 2003-Sept. 2005	King	\$529,000	23,663	\$22.36	\$0.83
Waste Management of South King	30%	July 2003-Sept. 2005	King	\$546,000	29,510	\$ 18.50	\$0.69
Kent-Meridian Disposal Company	30%	April 2004 Aug. 2005	King	\$208,200	35,000	\$5.95	\$0.35
Eastside Disposal	30%	Jan. 2004-Aug. 2005	King	\$311,700	28,000	\$11.13	\$0.56
Waste Management of the Northwest	30%	July 2003-Sept. 2005	Snohomish	\$1,285,000	73,948	\$17.38	\$0.64
Lynnwood Disposal	30%	Sept. 2004 Sept. 2005	Snohomish	\$116,400	16,000	\$7.28	\$0.56
Harold LeMay Enterprises, Inc.	30%	March – Oct. 2005	Pierce	\$150,000	35,835	\$4.19	\$.52
Murrey's Disposal	30%	March – Oct. 2005	Pierce	\$126,310	31,968	\$3.95	\$.49
American Disposal Company	30%	March - Oct . 2005	Pierce	\$58,797	15,531	\$3.79	\$.47
<b>Total</b>				<b>\$3,331,407.00</b>	<b>289,455</b>		

Single stream recycling may increase the amount of materials collected. However, contamination (such as broken glass contaminating paper, lowering the quality and value) may result in less material actually recycled. Pierce County does not collect glass in its single stream recycling program because glass has a low value and contaminates high-quality paper when it breaks. As a result, the Pierce County single-stream program may collect materials with higher value.

**Rates.** Most of the cost changes, both increases and decreases, will be included in the monthly rates that customers pay for their recycling service. Table 2, above, shows a summary of cost impacts from the revenue-sharing portion of these recycling programs.

## 4. Effectiveness

In considering whether revenue sharing has been effective as an incentive to increase recycling, we look at both the scope and results of the recycling programs. Ten recycling programs were implemented under revenue sharing, serving 289,455 households (64 percent of households subscribing to recycling service from regulated solid waste collection companies). All of those programs were located in King, Snohomish, and Pierce counties. These counties have:

- Large customer bases in the UTC-regulated (unincorporated) territory.
- Mandatory pay/voluntary participation recycling required by county ordinance. This distributes costs, encourages customer participation, increases the amount of recyclable materials collected, and increases the revenues available for sharing.
- Sufficient revenue from the sale of recyclable materials to make the revenue sharing program worthwhile.

Even within these counties where recycling has been implemented, we cannot conclude that revenue sharing has been an incentive to increase recycling rates. Although we can measure the change in recycling materials collected, in many cases it is impossible to determine if the programs initiated under the revenue sharing programs caused the change in the recycling rate. Activities and influences outside of the revenue sharing programs often make it impossible to gather data with sufficient controls to draw reasonably certain conclusions about cause and effect. For the companies operating in King and Snohomish counties, these factors include:

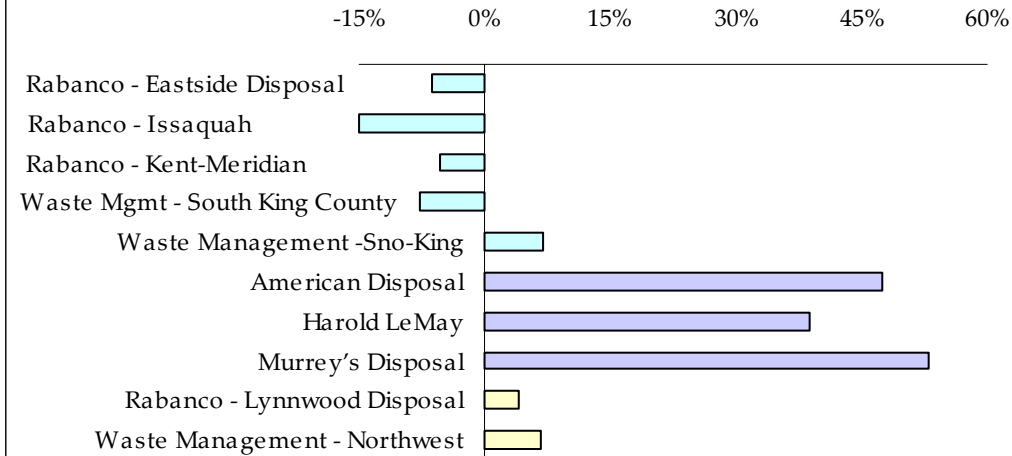
- Counties and cities provide customers information and education beyond the revenue sharing programs.
- Customers changed as companies merged, exchanged service territories, and lost regulated customers to non-regulated city service.
- Although companies have accurate data for total company operations, the data are allocated between regulated and unregulated services. Waste characterization studies would give more accurate data, but are expensive.

The UTC surveyed King, Pierce and Snohomish counties, and regulated companies in those counties: Waste Management, Rabanco, American Disposal, Harold LeMay Enterprises, and Murrey's Disposal. In each case, the counties and companies reported to the UTC that recycling has increased. However, commission staff's review of the reported recycling data shows that recycling increased in some areas and decreased in other areas as set forth in Table 3 and Figures 1 and 2. The biggest increases were in areas that had relatively low recycling levels to begin.

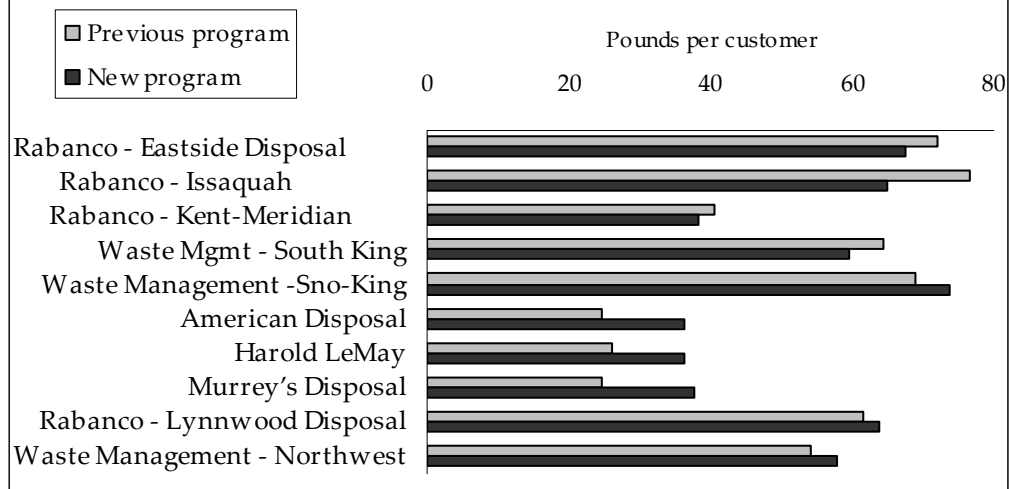
**Table 3 Change in Recycling Pounds Per Customer After Revenue Sharing**

County	Company Name	Pounds per customer per month		
		Previous program:	New program:	% Change:
King	Rabanco - Eastside Disposal	72.0	67.4	-6.3%
King	Rabanco - Issaquah	76.7	65.1	-15.1%
King	Rabanco - Kent-Meridian	40.5	38.4	-5.2%
King	Waste Mgmt - South King County	64.5	59.5	-7.7%
King	Waste Management -Sno-King	68.9	73.8	7.0%
Pierce	American Disposal	24.7	36.4	47.6%
Pierce	Harold LeMay	26.1	36.2	38.9%
Pierce	Murrey's Disposal	24.7	37.8	53.1%
Snohomish.	Rabanco - Lynnwood Disposal	61.4	63.9	4.0%
Snohomish.	Waste Management - Northwest	54.3	58.0	6.7%

**Fig. 1 Percent Change in Recycling (Pounds per Customer) after Revenue Sharing**



**Fig. 2 Recycling Pounds Per Customer, Revenue sharing compared to previous program**



Counties reported they are pleased with the results of the recycling programs and believe those programs have resulted in increased recycling. According to King County, the key factors contributing to the increase of recycling are:

- Increasing cart capacity from 35-gallon to 96 gallons,
- Using a single cart instead of the old three-bin containers, and
- Providing customers with new educational materials.

In Pierce County, data for March through October 2005 show a dramatic increase in recycling tonnage (61.3 percent), average pounds recycled per household (45.3 percent), and low contamination rates (approximately 2 percent) of collected materials.

However, data collected over eight months are not sufficient to draw definitive conclusions. Twelve months of data would provide a more accurate comparison.

Several factors may have increased the effectiveness of recycling programs:

- **Collecting additional commodities.** The new recycling programs collected several additional types of recyclable products, including polycoated beverage containers, polycoated freezer boxes, plastic bottles and food tubs (excluding polystyrene), and ferrous and nonferrous metals.
- **Waste bans.** County councils in King and Pierce Counties passed ordinances that ban specific materials from garbage disposal. King County banned yardwaste and electronic waste from the garbage waste stream. Pierce County banned glass from curbside recycling. The effect of waste bans on recycling programs is difficult to determine. Yardwaste banned from garbage disposal may be diverted to a commercial composting facility (through curbside yardwaste collection or self-haul) or used in backyard composting. Electronics banned from garbage disposal may be diverted to specialized recycling collection points that are not part of the UTC regulated solid waste system. Glass banned from curbside recycling collection may be diverted to specialized glass collection facilities (also outside of the UTC-regulated solid waste system) or placed in garbage for disposal. Materials not entering the UTC regulated solid waste collection stream cannot be quantified.
- **Future recycling programs.** There are other tools that may lead to innovation in the future of recycling. The WDOE developed the state's solid waste management plan, *Beyond Waste*. As counties update their Comprehensive Solid Waste Management Plans to incorporate the *Beyond Waste* principles, the UTC expects more innovative programs to divert recyclable materials from disposal.

It is difficult to draw meaningful conclusions about whether revenue sharing was effective in increasing recycling, in large part because there are too many uncontrolled variables. For example:

- Some companies keep data on a “whole company” basis, including municipal programs not regulated by the UTC or counties. This makes it difficult to isolate the effect of changes in regulated operations.
- Recycling programs changed in more than one dimension. For example, programs changed both the collection technology (i.e., going from a three-bin system to a single-bin commingled collection system) as well as the mix of commodities being recycled (e.g., adding plastics or banning glass).
- Recycled commodity prices fluctuate daily in response to global economic conditions. In addition, the mix of recyclables, and their commodity value, may be affected by shifting to commingled collection.
- Companies merged and exchanged service territories, which changed collection times and frequencies and lost historic recycling data during the transition. In addition, regulated companies lost customers to newly incorporated cities.
- Pierce County programs began later than others, and the limited time may be insufficient to draw definitive conclusions.

Nevertheless, these are some observations we can make from our survey data:

- Snohomish County saw a modest increase in recycling volumes, ranging from 4 to 7 percent in average pounds per customer per month.
- In King County, recycling increased in one hauler’s area but decreased in at least three others. The reasons for a decrease in recycling volumes are not clear.
- Pierce County data show a dramatic increase in recycling tonnage (61.3 percent), average pounds recycled per household (45.3 percent), and low contamination rates (approximately 2 percent) of collected materials, although this was only over a limited (eight month) period of time .
- Counties, companies and customers are generally pleased with the recycling programs implemented under the revenue sharing programs.
- Customers like the convenience of the new single stream recycling collection systems. Programs allow customers to recycle additional materials, and decrease the amount of materials they throw away in their garbage.
- All of the recycling activities could have been accomplished without revenue sharing, through each county’s comprehensive solid waste management planning process and service level ordinances. However, that planning process can be lengthy because of the number of stakeholders involved, and because the county council needs to approve the plan and pass implementing ordinances. Thus, revenue sharing may have allowed programs to begin faster than they would have otherwise.

- Revenue sharing provided an incentive for haulers to negotiate with county solid waste staff to implement changes in existing recycling programs and experiment with pilot programs.

Every solid waste collection company in the state must comply with local solid waste management plans and related implementation ordinances (RCW 80.77.030). The UTC supports counties' recycling efforts by ensuring that regulated haulers implement recycling programs consistent with county comprehensive solid waste management plans and local ordinances.

All of these recycling programs have costs associated with implementation. Whether or not companies are allowed to retain recycling revenues, under UTC regulation they are allowed to recover their costs and a return on investment. The UTC sets rates that allow a company to recover reasonable expenses and provide an opportunity to earn a reasonable profit. The level of profit depends on the company's investment and how efficiently and effectively the company can operate its business.

## 5. How Companies Spent Retained Revenue

Companies spent the retained revenue in three ways: (1) reducing debt owed on recycling facilities, (2) purchasing capital equipment used in recycling programs, and (3) paying operating expenses for recycling educational materials. Companies spent most of the retained revenue on recycling-related activities that increased owner equity or company profit, consistent with the intent of the revenue sharing legislation.

**Reduced debt.** Waste Management used retained revenue to retire debt on trucks and an affiliated recycling processing plant, Cascade Recycling Center. By retiring the debt that it owed on assets, the company directly increased its equity by the same amount.

**Purchased capital equipment.** Many companies used retained revenue to purchase trucks, recycling carts, and other equipment. Costs associated with the purchase of assets, including labor costs incurred to distribute recycling carts, are capitalized and depreciated over the asset's useful lives. The company will recover the costs of those assets through rates. The initial cost will be recovered through depreciation expense, and the company will earn a return on the undepreciated balance through UTC ratemaking.

**Paid operating expenses.** All companies reported using a portion of the retained funds to provide additional educational materials to customers (direct mailings, letters, brochures and, in one case, a web site), expand recycling programs to additional areas,

and implement single stream recycling. All of these expenses are legitimate operating expenses that companies can recover from customers through rates. See Table 4, below.

**Table 4**  
**Summary of How Companies Spent Retained Revenue**

Source: Company responses to UTC surveys

**Waste Management – Rainier, Raffo, RST, Seattle, and Sno-King (King County)**

**Waste Management of the Northwest – Snohomish County**

- Implemented single stream recycling.
- Purchased carts.
- Funded a public education program.
- Retired debt on trucks and new affiliated processing plant, Cascade Recycling Center.
- Added new commodities to the curbside recycling program.
- Partially funded a food waste curbside pilot program (King County).
- Expanded curbside recycling to more areas of the county (Snohomish County).

**Eastside Disposal – King County**

- Provided mailers, calendars, can tag hangers, and new customer packets (\$21,000).
- Purchased carts (\$945,000 plus labor costs delivering the containers).

**Kent-Meridian– King County**

- Provided 4,000 96-gallon mixed recycle carts (est. \$200,000 + est. 700 hours of labor).
- Mailed letters to the 2,000 customers receiving the 96-gallon carts detailing the expanded recycling service and the single container system (est. \$1,500).
- Developed a web site to assist customers (est. “several thousand dollars of consulting time”).
- Purchased a new front-loading truck (est. \$252,000).
- Mailed the required annual service calendar, with details of the expanded recycling capabilities and additional educational information (est. \$26,625).

**Lynnwood Disposal– Snohomish County**

- Purchased new decals and attached to all carts.
- Mailed letters to customers announcing the new recycling program.
- Trained customer service staff.
- Notified non-recycling garbage customers that they would receive a recycle cart.
- Mailed information to Maltby-area non-garbage customers in an attempt to get them signed up for both garbage and recycling service.
- Purchased and delivered 1,500 carts to Maltby area customers (est. \$67,500).
- Sent educational information to new customers (est. \$12,000).

Because Pierce County companies’ (Harold LeMay Enterprises, Inc., Murrey’s Disposal and American Disposal Company) programs are relatively new, there are no data available at this time.

**Conclusion.** Counties, companies and customers are generally pleased with the recycling programs implemented under the revenue sharing programs. The programs allow customers to recycle additional manufactured and organic materials and decrease the amount of materials they put in their garbage. Customers appear to like the convenience of the new single stream recycling collection systems.

While preliminary data indicate the new recycling programs in Pierce and Snohomish counties increased recycling volume, more data may be necessary to make a definitive conclusion. The data from King County is inconclusive, as recycling volumes declined for four of five revenue-sharing recycling programs. These data are insufficient to show conclusively that revenue sharing has been an effective method to increase recycling in Washington State.

All of the recycling activities described in this report could have been accomplished without revenue sharing through the county's comprehensive solid waste management planning process and service level ordinances. However, the planning process can be lengthy because of the number of stakeholders involved, and because the county council needs to approve the plan and pass implementing ordinances. Revenue sharing provided an incentive for haulers to negotiate sooner with county solid waste staff to implement changes in existing recycling programs and experiment with pilot programs.



# APPENDIX A

## Background on UTC Solid Waste Regulation

Under chapter 81.77 RCW, the Utilities and Transportation Commission (UTC) regulates the collection of solid waste and residential recycling in unincorporated areas of the state, and within cities and towns that do not contract for or provide solid waste collection services themselves. Sixty companies hold certificates to collect solid waste, including biomedical waste and biohazardous waste. The UTC regulates:

**Entry.** A company must obtain a certificate from the UTC to provide solid waste collection services. The UTC can issue temporary permits (not to exceed 120 days) to meet a short-term or urgent unmet need for service. An applicant must prove an unmet public need exists for a new service and that the requested service meets the public convenience and necessity standard (RCW 81.77.040). If an existing company holds a certificate to provide the services requested in an application, the existing company can protest the application. The UTC can grant a certificate for a competing company only if it finds that the existing company will not provide service to the satisfaction of the UTC. Permanent certificates are deemed property rights and generally authorize service for an exclusive territory. The certificate can be purchased, sold, assigned, leased, transferred, or inherited as other property, but only after authorization by the commission.

**Rates.** State law requires the UTC to set fair rates for service. A regulated company is entitled to recover reasonable expenses and have an opportunity to earn a reasonable profit. The UTC sets rates using each company's specific cost structure without considering what customers in other service areas or jurisdictions might pay. Auditors review each company's financial and operating records to identify the appropriate costs of providing regulated services. Haulers must file tariffs with the UTC listing the services they provide, the terms under which customers may receive service, and rates for these services.

**Safety.** The UTC reviews operational and safety records to ensure regulated companies comply with safety requirements, driver qualification standards, and drug and alcohol testing program requirements. The agency inspects vehicles to ensure compliance with federal safety standards. It also sets minimum insurance levels for public liability and property damage insurance, and monitors compliance.

**Consumer protection.** The UTC works with consumers, local governments, and regulated companies to resolve informal and formal complaints. The UTC investigates

business practices, provides technical assistance, takes progressive compliance actions, and may assess penalties.

**Operations.** In partnership with the Washington Department of Ecology (WDOE), the UTC reviews county Comprehensive Solid Waste Management Plans to assess the cost impact of those plans on rate payers of regulated companies. The UTC provides technical assistance to regulated solid waste collection companies, local governments, and the WDOE. The UTC works collaboratively with counties and the WDOE on solid waste management issues throughout the state. As a member of WDOE's Solid Waste Advisory Committee, the UTC participated in WDOE's state solid waste management planning process, *Beyond Waste*.

Neither the UTC nor any local government has authority over the collection of commercial recycling. As part of a 1994 federal law that deregulated trucking, recyclables from drop boxes or commercial establishments are defined as property (the collection of which is subject to chapter 81.80 RCW), not solid waste (subject to chapter 81.77 RCW). This effectively preempts state and local governments from regulating commercial recycling services.

## **APPENDIX B –**

### **Revenue sharing, RCW 81.77.185**

**(Sec 6, ch. 299, L. 2002)**

**RCW 81.77.185** (1) The Commission shall allow solid waste collection companies collecting recyclable materials to retain up to thirty percent of the revenue paid to the companies for the material if the companies submit a plan to the Commission that is certified by the appropriate local government authority as being consistent with the local government solid waste plan and that demonstrates how the revenues will be used to increase recycling. The remaining revenue shall be passed to residential customers.

(2) By December 2, 2005, the Commission shall provide a report to the legislature that evaluates:

(a) The effectiveness of revenue sharing as an incentive to increase recycling in the state; and

(b) The effect of revenue sharing on costs to customers.

# APPENDIX C

## CALCULATIONS OF CHANGES IN RECYCLING COLLECTION BY COMPANY

### CHANGE IN RECYCLING - CALCULATIONS

American Disposal Company

Pierce County

Residential Recycling Tons:	Base Average Per Month	Total 8 Months Ended October 2005	Monthly Average Ended October 2005	Base Avg to 8 Month Avg Percent Change
<u>Commodities</u>				
Mix Paper	83.67	1,372.59	171.57	
Newspaper	47.02	354.29	44.29	
Aluminum	1.55	35.40	4.42	
Tin Cans	3.43	51.32	6.41	
Glass	22.37	93.03	11.63	
Plastic	-	66.40	8.30	
GLOB	6.61	-	-	
Cardboard	8.52	271.39	33.92	
Total Tons	173	2,244	281	
Customers	14,039	123,309	15,414	
Pounds per Customer	24.67	36.40	36.40	47.56%

# CHANGE IN RECYCLING - CALCULATIONS

Harold LeMay Enterprises, Inc.

Pierce County

Residential Recycling Tons:

	Base Average Per Month	Total 7 Months Ended September 2005	Monthly Average Ended September 2005	Base Avg to 7 Month Avg Percent Change
<u>Commodities</u>				
Mix Paper	176.63	1,603.78	229.11	
Newspaper	169.62	1,985.26	283.61	
Aluminum	5.96	112.87	16.12	
Tin Cans	17.01	197.23	28.18	
Glass	72.60	130.97	18.71	
Glass (Drop-off Sites)	-	237.71	33.96	
Plastic	-	172.59	24.66	
Cardboard	31.17	666.43	95.20	
Total Tons	473	5,107	730	
Customers	36,305	282,279	40,326	
Pounds per Customer	26.06	36.18	36.18	38.87%

## CHANGE IN RECYCLING - CALCULATIONS

Murrey's Disposal

Pierce County

Residential Recycling Tons:	Base Average Per Month	Total 8 Months Ended October 2005	Monthly Average Ended October 2005	Base Avg to 8 Month Avg Percent Change
<u>Commodities</u>				
Mix Paper	160.43	2,931.75	366.47	
Newspaper	95.40	761.30	95.16	
Aluminum	2.99	77.09	9.64	
Tin Cans	6.73	109.62	13.70	
Glass	53.81	167.09	20.89	
Plastic	-	141.40	17.67	
GLOB*	13.71	-	-	
Cardboard	16.57	580.94	72.62	
 Total Tons	 350	 4,769	 596	
 Customers	 28,288	 252,070	 31,509	
 Pounds per Customer	 24.72	 37.84	 37.84	 53.08%

\* GLOB refers to recyclable commodities that are not newspaper, mixed paper, or cardboard, including the following: magazines, tin, plastic, aluminum, metal, glass, and glass contamination.

# CHANGE IN RECYCLING - CALCULATIONS

Eastside Disposal

King County

Residential Recycling Tons:						
	Base		8 Months	Total	Monthly	Base Avg to
	Average	Total	Total	20 Months	Average	20 Month Avg
	Per Month	2004	2005	Ended	Ended	Percent
				August 2005	August 2005	Change
<u>Commodities</u>						
Mix Paper	379.30	4,047.47	3,138.38	7,185.85	359.29	
Newspaper	95.73	597.19	468.42	1,065.61	53.28	
Aluminum	4.41	49.19	36.38	85.57	4.28	
Tin Cans	8.73	86.60	68.77	155.37	7.77	
Glass	75.84	1,015.29	760.99	1,776.28	88.81	
Plastic	10.56	71.68	65.92	137.60	6.88	
Cardboard	64.44	613.67	306.03	919.70	45.99	
Total Tons	639	6,481	4,845	11,326	566	
Customers	17,761	197,636	138,380	336,016	16,801	
Pounds per Customer	71.96	65.59	70.02	67.41	67.41	-6.31%

CHANGE IN RECYCLING - CALCULATIONS  
 Eastside Disposal - Issaquah Division  
 King County

Residential Recycling Tons:

	Base Average Per Month	Total 2004	2004 Average	8 Months Total 2005	Average 8 Months 2005	Total 13 months Ended August 2005	Monthly Average Ended August 2005	Base Avg to 13 Month Avg Percent Change
<u>Commodity Tons:</u>								
Mix Paper	186.34	1,201.31	240.26	1,760.15	220.02	2,961.46	227.80	
Newspaper	87.99	176.86	35.37	262.73	32.84	439.59	33.81	
Aluminum	3.75	14.59	2.92	20.41	2.55	35.00	2.69	
Tin Cans	13.62	25.79	5.16	38.57	4.82	64.36	4.95	
Glass	54.81	303.98	60.80	427.77	53.47	731.75	56.29	
Plastic	9.05	21.26	4.25	36.98	4.62	58.24	4.48	
GLOB*	13.20		-				-	
Cardboard	2.12	182.01	36.40	171.74	21.47	353.75	27.21	
Total Tons	370.88	1,926	385.16	2,718	339.79	4,644	357.24	
Customers	9,676	54,355		88,343		142,698	10,977	
Pounds per customer	76.66	70.86		61.54		65.09	65.09	-15.09%

\* GLOB refers to recyclable commodities that are not newspaper, mixed paper, or cardboard, including the following: magazines, tin, plastic, aluminum, metal, glass, and glass contamination.



CHANGE IN RECYCLING - CALCULATIONS  
Kent-Meridian Disposal Company  
King County

Residential Recycling Tons:						
	Base Average Per Month	Total 2004	3 Months Total 2005	Total 15 Months Ended March 2005	Monthly Average Ended March 2005	Base Avg to 15 Month Avg Percent Change
<u>Commodities</u>						
Mix Paper	450.09	5,111.31	1,289.68	6,400.99	426.73	
Newspaper	61.67	754.89	189.75	944.64	62.98	
Aluminum	8.91	73.28	15.63	88.91	5.93	
Tin Cans	10.94	132.08	27.53	159.61	10.64	
Glass	64.59	1,224.37	323.07	1,547.44	103.16	
Plastic	2.79	109.91	22.92	132.83	8.86	
Cardboard	92.39	483.95	194.82	678.77	45.25	
Total Tons	691	7,890	2,063	9,953	664	
Customers	34,121	412,694	105,727	518,421	34,561	
Pounds per Customer	40.52	38.24	39.03	38.40	38.40	-5.25%

## CHANGE IN RECYCLING - CALCULATIONS

### Lynnwood Disposal Snohomish County

Residential Recycling Tons:								
	Base Average Per Month	3 Months Total 2004	2004 Average	9 Months Total 2005	Average 9 Months 2005	Total 12 Months Ended Sept 2005	Monthly Average Ended Sept 2005	Base Avg to 12 Month Avg Percent Change
<u>Commodity Tons:</u>								
Mix Paper	296.37	1,018.46	339.49	2,823.47	313.72	3,841.93	320.16	
Newspaper	42.68	149.50	49.83	414.45	46.05	563.95	47.00	
Aluminum	4.27	12.36	4.12	34.26	3.81	46.61	3.88	
Tin Cans	6.85	22.28	7.43	61.76	6.86	84.03	7.00	
Glass	88.79	253.92	84.64	703.94	78.22	957.86	79.82	
Plastic	5.73	18.10	6.03	50.18	5.58	68.28	5.69	
GLOB*	19.86	-	-	-	-	-	-	
Cardboard	25.01	154.37	51.46	427.96	47.55	582.33	48.53	
Total Tons	489.56	1,629	542.99	4,516	501.78	6,145	512.08	
Customers	15,935	48,037		144,324		192,361	16,030	
Pounds per customer	61.45	67.82		62.58		63.89	63.89	3.98%

\* GLOB refers to recyclable commodities that are not newspaper, mixed paper, or cardboard, including the following: magazines, tin, plastic, aluminum, metal, glass, and glass contamination.

CHANGE IN RECYCLING - CALCULATIONS  
Waste Management of the Northwest  
Snohomish County

	Base Average Tons Per Month	Total 2004	Total 2005	Total 18 Months Ended June 2005	Monthly Average Ended June 2005	Base Data to June 05 Percent Change
Residential Recycling:						
Commodities:						
Mix Paper	1,106.85	11,808.54	5,630.00	17,438.54	968.81	
Newspaper	221.23	7,843.01	4,562.12	12,405.13	689.17	
Aluminum	27.74	258.57	134.01	392.58	21.81	
Tin Cans	57.40	429.20	229.71	658.91	36.61	
Glass	393.54	5,007.31	1,931.45	6,938.76	385.49	
Plastic	53.77	701.12	410.33	1,111.44	61.75	
Residual	N/A			-	-	
Total Tons	1,861	26,048	12,898	38,945	2,164	
Customers	68,495	887,370	455,937	1,343,307	74,628	
Pounds per customer	54.33	58.71	56.58	57.98	57.98	6.73%

**Please note:**

Baseline Data does not include residual tonnages. These tonnages were not kept track of in the same way they are tracked today

**CHANGE IN RECYCLING - CALCULATIONS**  
**Waste Management of Sno-King**  
**King County**

	Base Average Tons Per Month	Total 2004	Total 2005	Total 18 months Ended June 2005	Monthly Average June 2005	Base Data to June 05 Percent Change
Residential Recycling: <u>Commodities:</u>						
Mix Paper	376.00	4,562.07	1,756.15	6,318.22	351.01	
Newspaper	153.56	3,651.79	2,412.90	6,064.69	336.93	
Aluminum	9.93	99.12	57.40	156.53	8.70	
Tin Cans	25.23	194.94	115.28	310.23	17.23	
Glass	191.63	1,930.90	639.80	2,570.70	142.82	
Plastic	13.70	301.87	148.73	450.61	25.03	
Residual	N/A			-	-	
 Total Tons	 770.05	 10,740.70	 5,130.26	 15,870.97	 881.72	
 Customers	 22,352	 283,956	 146,403	 430,359	 23,909	
 Pounds per customer	 68.90	 75.65	 70.08	 73.76	 73.76	 7.05%

**Please note:**

Baseline Data does not include residual tonnages. These tonnages were not kept track of in the same way they are tracked today

## CHANGE IN RECYCLING - CALCULATIONS

### Waste Management of South King County

Residential Recycling Tons:													
	Base	Less:	Restated		Less:	Restated		Less:	Restated	Restated	6 Months	Restated	Restated
	Average	%	Average		%			%		Total	18 Months	Monthly	Base Avg to
	Tons	Change in	Tons	Jan.-May	Change in	Jan.-May	Jun.-Dec.	Change in	Jun.-Dec.	Total	Total	Ended	18 Month Avg
	Per Month	Customers	Per Month	2004	Customers	2004	2004	Customers	2004	2004	2005	June 2005	Percent
Commodities													Change
Mix Paper	499.58	(202.12)	297.47	2,253.25	(911.61)	1,341.64	2,095.23	(317.78)	1,777.45	3,119.10	1,410.50	4,529.59	251.64
Newspaper	204.03	(82.55)	121.49	1,471.26	(595.23)	876.03	2,240.98	(339.88)	1,901.10	2,777.12	1,948.12	4,725.24	262.51
Aluminum	13.20	(5.34)	7.86	45.52	(18.42)	27.10	52.13	(7.91)	44.22	71.33	42.40	113.73	6.32
Tin Cans	33.53	(13.56)	19.96	86.08	(34.83)	51.25	104.07	(15.78)	88.29	139.54	93.40	232.94	12.94
Glass	254.61	(103.01)	151.60	923.76	(373.73)	550.03	998.64	(151.46)	847.18	1,397.21	514.09	1,911.30	106.18
Plastic	18.20	(7.36)	10.84	156.03	(63.13)	92.91	146.20	(22.17)	124.03	216.93	120.01	336.94	18.72
Residual	N/A	N/A	N/A									-	-
Total Tons	1,023	(414)	609	4,936	(1,997)	2,939	5,637	(855)	4,782	7,721	4,129	11,850	658
Customers	31,737	(12,840)	18,897	164,784	(66,667)	98,117	189,334	(28,716)	160,618	258,735	139,420	398,155	22,120
Pounds per Customer	64.48	64.48	64.48	59.91	59.91	59.91	59.55	59.55	59.55	59.68	59.22	59.52	59.52
													-7.68%

#### Data provided by the Company:

- Baseline data do not include residual tonnages. These tonnages were not tracked in the same way they are tracked today.
- Baseline data principally represented a three-bin collection system with no lids. These tonnages may be inflated due to higher moisture content in the fiber.
- Baseline data tracked the tonnages from January 1999 to December 2002. Beginning in 2002 the baseline data included tonnages from Raffo/ RST.
- Raffo/RST collection system (EOW collection) was different than historical WM collection systems (weekly collection).
- Because of frequent change in management (baseline period), acquisition of Raffo/RST and major system changes due to WM merger, the accuracy of data cannot be verified.
- South King County data may not be completely reliable due to the large shift in customers and routes resulting from the trade between WM and Allied in 2004 and 2005.
- South King County data may not be reliable due to routing changes resulting from the loss of the Sea-Tac territory and the gain of the City of Burien territory in June, 2004. Both of these areas were serviced previously by UTC-regulated services.